

Kyle (D.B.)

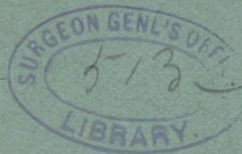
THE ETIOLOGY, PATHOLOGY, AND TREATMENT
OF OZENA.

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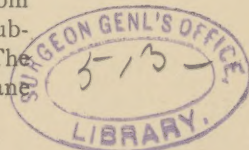
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THE term ozena is a most unfortunate one, for the condition is not a disease *per se*, but a symptom indicative of a number of pathologic tissue-changes with altered secretions. This condition, then, may occur in various inflammatory conditions of the nasal mucosa, as well as in ulcerative conditions, syphilis, malignant growths, retention of secretions from polypi, rhinoliths, and foreign bodies.

The atrophic change is the one to which this term is most commonly applied and upon which it really depends, and when considering the pathology and treatment we must, therefore, study the pathologic changes on which this condition depends.

The differences of opinion as to the cause of the disease furnish conclusive evidence that there is room for further investigation. In my opinion, it is subsequent to the so-called hypertrophic rhinitis. The mucous membrane consists of a basement-membrane



upon which are arranged epithelial cells ; underneath are bloodvessels, glands, and nerves, which are imbedded within the interstitial submucous tissue ; its essential function is to secrete mucus.

Inflammatory conditions, with engorged vessels, causing intra-vascular pressure, are followed by exudation, which relieves the intra-vascular pressure, but which in turn brings about extra-vascular pressure or interstitial infiltration.

If this inflammatory material organize there will be interstitial thickening followed by contraction, but in either case nutrition will be interfered with, causing a certain amount of atrophy, with consequent degeneration and alterations dependent upon the extent of nutritive change. This alteration of tissue interferes with normal glandular secretion and elaboration, so that the material elaborated is more highly albuminous and slightly more fibrinous, rendering it highly coagulable ; hence the tendency to the formation in the sinuosities of "crusts" or "slugs."

Herzfeld, of Berlin, has been able to demonstrate the presence of muscular fiber even in the Schneiderian membrane, and in this statement he has been confirmed by Kölliker and Zuckerkandl. Voltolini, however, failed to find such fiber.

If we grant that thickening and contraction do not take place, the atrophy can be explained in the same manner as red atrophy of the liver. When the mucosa is once passively congested it tends to remain so, and by continued intra-vascular pressure the interstitial tissue atrophies and degenerates. When the submucosa and cavernous tissue are

cyanotic the epithelial lining dependent upon them for nutrition must necessarily undergo degenerative changes. The infiltrated cells, together with the proliferated, fixed cells, may from poor nutrition undergo granular change.¹ The transition from hypertrophy to atrophy does not necessarily imply the presence of ozena; in some cases with widespread atrophy, and in which the nasal capacity had greatly increased, no odor could be detected. According to Zuckerkandl, hypertrophy and atrophy are more pronounced in the respiratory region, yet by no means limited to that area, but not infrequently invade the olfactory area. This condition may exist in one or both nostrils. The condition of unusual size of the nostrils is more a result than a cause, dependent upon the amount of contraction and atrophy. In many cases there is narrowing of the rhino-pharynx; in some cases adenoid vegetations form an important element, and in such cases the rhino-pharynx should be carefully treated.

Much has been written in regard to the effect of bacteria in catarrhal conditions. The normal nasal secretion may possess anti-microbic properties, but such is not the case with inflammatory exudates. That there is any etiologic connection between bacteria and the disease remains to be proved. In my own experience I have been able to isolate many

¹ The examination of sections made from tissue removed showed in three cases the thickened interstitial tissue, while in two cases the atrophy was due to pressure from engorged vessels. In each case the tissue was examined within twenty-four hours after removal.

germs from inoculations made from the diseased exudate in which marked odor existed. Some are pathogenic, others non-pathogenic, but against any one germ being an important factor is the fact that no one germ was always present. In most cases in which the odor was pronounced I found present a germ which by macroscopic and microscopic appearance, as well as by the test of *sense of smell*, was undoubtedly the bacillus foetidus. It may be noted that Löwenberg, Christovitch, and Fraenkel believe in the microbial pathogenesis.

The history generally given by the patient is that the trouble began in a series of "colds in the head," followed by marked anterior and posterior nasal discharge. As the case progresses the character of this discharge alters from a thin, slightly colored discharge to a thick, purulent one, and continuing so for some months, with slight exacerbation, only to return with increased severity, the discharge becoming more albuminous, with a tendency of the secretions to dry, or "crust," and form "slugs" in the sinuosities of the fossæ, with some little odor noticeable. This condition goes on from bad to worse. The patient suffers from frontal headache, which is increased on stooping; sharp neuralgic pain over the malar prominence, or "face-ache;" itching and burning of the eyeballs; irritability and depression; constant itching and burning in the nares, due to the presence of altered secretions, and by constant blowing of the nostrils the condition is only aggravated. On swallowing, the patient experiences that peculiar sensation of fulness in the palate-region due to the

accumulation and retention of secretions in the post-nasal space. Usually the general health is impaired and the patient is anemic.

As to anemia, almost all cases exhibit it in which there is interference with nasal breathing. This has been clearly proved by a series of blood-examinations of cases in which there was nasal obstruction; counts being made before and after relief. Usually only two or three counts can be made after treatment, but in all cases the count shows a rapid increase in the number of corpuscles per cubic millimeter, and not only an increase in number, but the shape of the corpuscles, from being markedly irregular and crenated, becomes normal in appearance. My attention was first directed to this fact by Dr. Sajous, and through his suggestion I was led to make the investigations.

Zaufal observes that fetor of the breath is most marked in young subjects, and that after twenty it is less. In this I do not agree, as in some of the cases which came under my observation the patients were over thirty, and if the odor was then *less*, the preëxisting condition must have been pitiable. Surely those whose specialty necessitates their sitting in front of a patient afflicted with ozena will agree that it is one of the most offensive of conditions, and that its cure means to the patient what no one can realize except one thus afflicted.

During the hypertrophic stage of the disease small nodular masses are discharged, described by the patient as pieces of flesh. Microscopically, these masses are usually polypoid or adenoid; their presence is indicative of tissue-destruction.

The plan of treatment from which I have been able to obtain the best results is: (1) Thorough spraying of the membrane with some solvent of albuminous material; (2) washing away of this material by means of an alkaline antiseptic solution; (3) thorough drying of the membrane; (4) the application of the remedial agent, best in a solution, which will adhere to the membrane. After cleansing and drying the membrane the next step is to apply a stimulating, irritating substance which will establish an acute inflammation of the parts. This is simply applying to the mucous membrane the general surgical methods of treating chronic superficial inflammations by converting them into acute inflammations. In this way one will produce hyperemia of the parts, deplete the circulation by increased activity of the blood-current, and lessen the engorgement. This end is also furthered by transudation, which, being on a mucous surface, has free drainage.

When a copious watery discharge has existed for at least ten days then the cleansing and drying should be followed by a stimulating antiseptic solution. In cases in which the atrophic changes have been followed by degeneration the benefit derived from treatment is very slight except so far as relates to the lessening of the odor.

As a solvent for the albuminous material, hydrogen dioxid (15 vol.) is possibly the best. To wash away this material an alkaline solution of sodium biborate and bicarbonate with cinnamon-water and camphor-water, or any of the alkaline washes, is good. After carefully drying the membrane, the parts can

be stimulated and irritated by applying oil of mustard in benzoinol or liquid albolin by means of an atomizer. As an irritant it should be used in some cases as strong as six or eight drops to the ounce.

If the condition is not too far advanced this plan of treatment has, in my hands, been most successful, the formation of slugs being entirely relieved, as well as the dryness and itching of the nares, the fulness of the post-nasal space, the secretion becoming almost normal. The patient's general health must, of course, be improved by tonics, regular out-of-door exercise, and rest.

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